Training Calendar : 2019-2020

Bangladesh Industrial Technical Assistance Centre (BITAC)
116 (Kha), Tejgaon Industrial Area
Dhaka-1208

1 INTRODUCTION

1.1 Background

Bangladesh Industrial Technical Assistance Centre (BITAC) is an autonomous body under Ministry of Industries. It was established in 1962 by merging two other productivity-oriented organizations namely Industrial Research & Development Centre (IRDC) and Pakistan Industrial Productivity Services (PIPS). BITAC has five centers in Bangladesh at Dhaka (1964), Chittagong (1976), Chandpur (1983) Khulna (1993) and Bogra (2006).

1.2 Objectives

- To train up industrial personnel to upgrade their skill
- To render technical advice to industries
- To disseminate modern know-how and advanced techniques among industrial personnel
- To design and develop precision tools, die & mould, jigs & fixtures, gauges, machine components and develop such products and machines that will assist industries in increasing their productivity
- To promote utilization of indigenous raw materials and development the scope of indigenous technology.

1.3 Activities

- To upgrade the skill of the industrial personnel in technical fields.
- To advice industries primarily in the private sector on matters pertaining to industrial productivity.
- To disseminate modern technical know-how among industrial personnel through seminars, group discussions, demonstrations, publications, film show etc.
- To extend consulting services to industrial organization and industries mainly in the private sector.
- To co-operate with international and national organizations and agencies in activities for increasing industrial productivity and advance technical know-how.
- To adopt such measures and take such steps and do all such things as may be conducive to the promotion of cordial relations between the centre and person interested in the objectives of the centre.
- To secure the recognition of the centre in Bangladesh and other foreign countries. In conjunction with the upgrading program and to make it more effective, the BITAC shall:
  - Assist in the design and development of jigs & fixtures gauges, mould, die, punches, tools and products (proto-type) for industries and agriculture;
  - Develop processes and tools etc, to help industries in improving the quality, increasing production, reducing cost and utilizing indigenous raw materials and to increase the scope of indigenous develop;
  - Conduct productivity studies in such selected plants as may be determined and recommend ways and means for improvement.
- To do all such other lawful things as the center may think identical or conducive to the attainment of any or all the objectives of the center mentioned above.

1.4 Advisory Committee

Chairperson	: Dr. Md. Mafizur Rahman Director General BITAC
Member	: Md. Abu Sayeed Khan Director, Bogra (attached to Dhaka) BITAC
	: Md. Arifur Rahman Executive Engineer Training Division ,BITAC, Dhaka

1.5 Editorial Committee

Chairperson	: Dr. Md. Jalal Uddin PEng Director, Chittagong, (attached to Dhaka) BITAC
Member	: Md. Fazlul Karim Additional Director BITAC, Dhaka
	: Md. Arifur Rahman Executive Engineer Training Division BITAC, Dhaka.

1.6 Course Conducting Committee

Course Advisor	: Director General BITAC
Course Director	: Director BITAC, Dhaka
Course Coordinator	: Additional Director Training Division BITAC, Dhaka

1.7 Governing Body of BITAC

Chairman

Secretary, Ministry of Industries, Government of the people's Republic of Bangladesh

MEMBER

1 Director General, BITAC, Member Secretary
2 Joint Secretary (Admin), Ministry of Industries
3 Director General, Directorate of Technical Education
4 Member, Board of Investment
5 President, Dhaka Chamber of Commerce & Industries
6 President, Chittagong Chamber of Commerce & Industries
7 Deputy Secretary, Ministry of Finance
8 Director, Directorate of Labor & Manpower

Secretary, BITAC acts as the Secretary of the Governing Body

The above body formulates necessary policy guidelines related to the activities of training and development of training division of BITAC

2 SCHEDULE OF THE TECHNICAL TRAINING PROGRAM

2.1 Long Term Technical Training Program

Sl. No.	Name of the Course	Course No.	Duration [Regular]	Practicing Weeks	No. of seats
1	Machine Shop	159	07 July 2019 to 17 Oct 2019	14	25
		160	03 Nov 2019 to 06 Feb 2020	14	25
		161	01 Mar 2020 to 11 June 2020	14	25
2	Electrical Maintenance	159	07 July 2019 to 17 Oct 2019	14	25
		160	03 Nov 2019 to 06 Feb 2020	14	25
		161	01 Mar 2020 to 11 June 2020	14	25
3	Welding	159	07 July 2019 to 17 Oct 2019	14	25
		160	03 Nov 2019 to 06 Feb 2020	14	25
		161	01 Mar 2020 to 11 June 2020	14	25
4	Automobile & Auto-electricity	159	07 July 2019 to 17 Oct 2019	14	10
		160	03 Nov 2019 to 06 Feb 2020	14	10
		161	01 Mar 2020 to 11 June 2020	14	10
5	Machine Maintenance	159	07 July 2019 to 17 Oct 2019	14	25
		160	03 Nov 2019 to 06 Feb 2020	14	25
		161	01 Mar 2020 to 11 June 2020	14	25
6	Foundry & Pattern Making	159	07 July 2019 to 17 Oct 2019	14	5
		160	03 Nov 2019 to 06 Feb 2020	14	5
		161	01 Mar 2020 to 11 June 2020	14	5
Sl. No.	Name of the Course	Course No.	Duration [Customized]	Practicing Weeks	No. of seats
7	Mechanical Drafting	As per Demand	As per discussion	14	10
8	Heat Treatment	As per Demand	As per discussion	14	5
9	Electroplating	As per Demand	As per discussion	14	5

2.2 Mid Term Technical Training Program

Sl. No.	Name of the Course	Course No.	Duration [Customized]	Practicing Weeks	No. of seats
1	CNC Lathe Operation & Practice	As per Demand	As per discussion	4	4
2	CNC Milling Operation & Practice	As per Demand	As per discussion	4	4
3	CNC Machining Center Operation & Practice	As per Demand	As per discussion	4	4
4	Die Sink EDM & Wire Cut EDM Operation & Practice	As per Demand	As per discussion	4	4
5	Plastic Technology	As per Demand	As per discussion	6	6
6	Auto CAD (2D & 3D)	As per Demand	As per discussion	6	6
7	Solid Works	As per Demand	As per discussion	6	6
8	Refrigeration & Air Conditioning	As per Demand	As per discussion	6	20
Sl. No.	Name of the Course	Course No.	Duration [Regular]	Practicing Weeks	No. of seats
	Programmable Logic Controller (PLC)	55	07 July 2019 to 18 July 2019	4	20
		56	08 Sept 2019 to 19 Sept 2019	2	20
		57	17 Nov 2019 to 28 Nov 2019	2	20
		58	19 Jan 2020 to 30 Jan 2020	2	20
		59	8 Mar 2020 to 20 Mar 2020	2	20
		60	31 May 2020 to 11 June 2020	2	20
Sl. No.	Name of the Course	Course No.	Duration [Customized]	Practicing Weeks	No. of seats
10	Boiler Operation & Maintenance	As per Demand	As per discussion	1	15
11	Attachment Technical Training Program	-	As per stakeholders desire	4-12	As per demand

3 LONG TERM TECHNICAL TRAINING PROGRAM

3.1 Machine Shop

Name of the Course	:	Machine Shop [Regular]
Duration	:	14-week
Date	:	07 July to 17 Oct 2019 ,03 Nov 2019 to 06 Feb 2020 01 Mar 2020 to 11 June 2020 for course No 159, 160, 161 respectively.
Nomination deadline	:	04 July 2019, 31 Oct. 2019, 27 Feb. 2020 for course No 159, 160, 161 respectively.
Number of Seats	:	25
Course fee	:	10,000/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	Square, Acme, Buttress and trapezoid thread cutting, Form turning with Form tool and by combined longitudinal and Cross feed, Copy turning; Cam shaft, Crank shaft turning; Dee hole drilling, boring and Rearming to sizes, Gear Cutting; Helical, Bevel and worm gear; Cam milling; Grinding on punch shaft to standard dimensional accuracy and surface finishing; Effect to temperature of surface finish. • Understanding of mechanical engineering drawing; • Informing different machining parameters; • Identification on different metals. • Introducing design of tools/cutters and practicing; • Make Capable of measuring using different measuring instrument; • Awareness of safety
Course Contents	:	• Technical Drawing • Basic Tool Design • Safety & Maintenance • Shop Theory • Measuring Tools, Fits & Tolerances • Related Math. • Engineering Materials • Heat-Treatment
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

3.2 Electrical Maintenance

Name of the Course	:	Electrical Maintenance [Regular]
Duration	:	14-week
Date	:	07 July to 17 Oct 2019 ,03 Nov 2019 to 06 Feb 2020 01 Mar 2020 to 11 June 2020 for course No 159, 160, 161 respectively.
Nomination deadline	:	04 July 2019, 31 Oct. 2019, 27 Feb. 2020 For course No 159, 160, 161 respectively.
Number of Seats	:	25
Course fee	:	8, 500/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	• To develop skill in domestic and industrial wiring; • To make control circuit and detecting faults and its maintenance; • To identify various electronic components and understanding electronic circuit and making circuit. • Detecting machine faults, machine winding and is repairing and maintenance; • Able of measure using various measuring tools and connect measuring instrument to a circuit.
Course Contents	:	• Electrical Wiring • Control System • Industrial Electronics • Electrical Machine • Measuring Tools & Electrical Instruments.
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

3.3 Welding

Name of the Course	:	Welding [Regular]
Duration	:	14-week
Date	:	07 July to 17 Oct 2019 ,03 Nov 2019 to 06 Feb 2020 01 Mar 2020 to 11 June 2020 for course No 159, 160, 161 respectively.
Nomination deadline	:	04 July 2019, 31 Oct. 2019, 27 Feb. 2020 for course No 159, 160, 161 respectively.
Number of Seats	:	25
Course fee	:	10,000/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	• Introduction to different types of welding processes; • Identification of different metals; • Preparation of different types of welding joints; • Welding practice at positions; • Introducing different welding Parameter • Skill development in arc welding technique and gas welding technique; • Detecting welding defects and trouble shooting • Designing and making welding jigs fixtures; • Learning welding symbols; • Make capable of inspection and testing of wel joints; • Safety awareness.
Course Contents	:	• Welding Theory on Arc Welding • Heat Treatment • Gas Welding/Cutting • Safety & Maintenance • Engineering Materials • Technical Drawing Reading • Welding Hand tools/Measuring Tools.
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

3.4 Automobile & Auto-electricity

Name of the Course	:	Auto-electricity [Regular]
Duration	:	14-week
Date	:	07 July to 17 Oct 2019 ,03 Nov 2019 to 06 Feb 2020 01 Mar 2020 to 11 June 2020 for course No 159, 160, 161 respectively
Nomination deadline	:	04 July 2019, 31 Oct. 2019, 27 Feb. 2020 for course No 159, 160, 161 respectively
Number of Seats	:	10
Course fee	:	6,000/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	• To introduce hand tools, machine tools and different measuring instruments; • To make capable of major overhauling of auto engine; electrical & electronic parts. • Troubles shooting and corrective measures; • Dismantling and assembling of gear box and clutch system; • To acquaint the participants with auto parts machining, denting and painting; • Repairing and maintenance of suspension and break system; • Selecting appropriate blue oil, fuel & tires for different types vehicles.
Course Contents	:	• Basic Engine • Fundamental-Electrical and electronic system • Power Transmission System • Auto-Parts Machining, Denting and painting • Measuring Tools • Suspension, Break, Fuel & Fuel Injection Systems.
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration • Model demonstration • Team Work • Report writing
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

3.5 Machine Maintenance

Name of the Course	:	Machine Maintenance [Regular]
Duration	:	14-week
Date	:	07 July to 17 Oct 2019 ,03 Nov 2019 to 06 Feb 2020 01 Mar 2020 to 11 June 2020 for course No 159, 160, 161 respectively
Nomination deadline	:	04 July 2019, 31 Oct. 2019, 27 Feb. 2020 for course No 159, 160, 161 respectively
Number of Seats	:	25
Course fee	:	6,000/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	• Introduction to different machine tools such as lathe machine, milling machine, grinding machine, boring machine, planer machine, drill machine, hydraulic and mechanical press machine, rolling machine, shear machine; • Acquainting different types of mechanical compound and driving System; • Understanding of blue print reading; • Make capable of disassembly and assembly of different machine tools and components; • Replacement of lubricants, cutting oil, o-ring, gasket etc; • Awareness of safety and maintenance.
Course Contents	:	• Machine Elements • Mechanical Component and Driving System • General Maintenance • Technical Drawing Reading • Hand tools/Measuring Tools • Safety & Maintenance.
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

3.6 Foundry & Pattern Making

Name of the Course	:	Foundry Practice [Regular]
Duration	:	14-week
Date	:	07 July to 17 Oct 2019 ,03 Nov 2019 to 06 Feb 2020 01 Mar 2020 to 11 June 2020 for course No 159, 160, 161 respectively.
Nomination deadline	:	04 July 2019, 31 Oct. 2019, 27 Feb. 2020 for course No 159, 160, 161 respectively.
Number of Seats	:	5
Course fee	:	6,000/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	• To operate induction furnace, cupola furnace, tilting furnace, pit furnace coke bed furnace, sand mixing machine, overhead crane, core drier, and use different hand tools etc; • Understanding blue print reading • Preparation of sand for mould and core making, • Making mould/core, pasting, metal melting, fettling etc; • Identifying the different metals and alloys; • Melting different metals, handling the liquid metal and purring the liquid metal into the mold cavity; • Taking different measurement using different measuring instruments; • Introducing the heat treatment processes.
Course Contents	:	• Pattern Making • Casting processes • Sand mould Preparation & Practices. • Different types of furnace • Melting Processes • Alloying of Metals • Safety & Maintenance • Engineering Materials • Technical Drawing & Reading • Welding Hand tools/Measuring Tools. • Heat-Treatment
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

3.7 Mechanical Drafting

Name of the Course	:	Mechanical Drafting [Customized]
Duration	:	14-week
Date	:	As per discussion
Nomination deadline	:	As per Demand.
Number of Seats	:	10
Course fee	:	6,000/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	• Introduction to and important of engineering drawing; drafting instrument and their uses; • Dimension-outside; inside, radius, angle, taper tolerance; • Practicing different types of conventional drawing; • Practicing geometric drawing-straight line, angle, square, polygon, circle, parabola, ellipse; • Practicing part/detail drawing, collective drawing, assemble drawing. • Practicing projection drawing, orthographic projection (1st & 3rd angle projection), isometric projection and oblique projection. Detail parts drawing assemble drawing with symbols surface finish and tolerances.
Course Contents	:	• Technical Drawing • Basic Tool Design • Safety & Maintenance • Shop Theory • Measuring Tools, Fits & Tolerances • Related Math. • Engineering Materials • Heat-Treatment
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

3.8 Heat Treatment

Name of the Course	:	Heat Treatment [Customized]
Duration	:	14-week
Date	:	As per discussion
Nomination deadline	:	As per Demand.
Number of Seats	:	5
Course fee	:	6,000/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	• Demonstration and practicing on Annealing Normalizing, Hardening & Tempering. • Introduction to different types of heat treatment furnaces; • Acquainting with different cooling media used for different metals and their alloys; • Identification of different type of metals; • Demonstration of quenching technique; • Practicing hardness measurement; • Preparing carburizing compound; • Demonstration on packaging of job into carburizing compound. • Awareness of safety.
Course Contents	:	• Safety & Maintenance • Engineering materials • Fundamental of Heat Treatment • Furnace Design
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

3.9 Electroplating

Name of the Course	:	Electroplating [Customized]
Duration	:	14-week
Date	:	. As per discussion.
Nomination deadline	:	As per Demand.
Number of Seats	:	5
Course fee	:	6,000/-
Target Group	:	Candidate having SSC or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	• Introduction to different types of surface preparation of metals and alloys; • Acquainting with different types of electroplating tank; • Identification of different types of lining materials; • Demonstration and practicing on buffing & polishing; • Demonstration & practicing on application of abrasive powder on grinding wheel. • Demonstration & practicing on drying of electroplated job. • Practicing hardness measurement; • Demonstration & practicing on electrolytic deposition of copper, nickel, bright chromium, hard chromium, zinc and cadmium on mild steel, cast iron and stainless steel; • Awareness of safety.
Course Contents	:	• Fundamentals of Electroplating • Process Control • Safety & Maintenance • Engineering materials • Fundamental of Heat Treatment
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Written test • Oral test • Overall performance.

4 MID TERM TECHNICAL TRAINING PROGRAM

4.1 CNC Lathe Operation & Practice

Name of the Course	:	CNC Lathe Operation & Practice [Customized]
Duration	:	4-week
Date	:	As per discussion.
Nomination deadline	:	As per Demand.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. in Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	• In depth exploration of ISO as related to lathe operation; • Detail lessons ranging from basic advanced programming; techniques using ISO and a representative lathe CNC control (Fagor), • Hands on machining practice under real-life shop environment.
Course Contents	:	• Introduction & Basic programming. • ISO Code (G & M code) • Machine parameter & Function. • Different operation & ramming.
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Oral test • Overall performance.

4.2 CNC Milling Operation & Practice

Name of the Course	:	CNC Milling Operation & Practice [Customized]
Duration	:	4-week
Date	:	. As per discussion.
Nomination deadline	:	As per Demand.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. in Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	• In depth exploration of ISO as related to milling; • Detail Lessons ranging from basic to advanced programming; techniques using ISO and a representative milling CNC control (Haidenhein TNC-310); • Hands on machining practice under real-life shop environment.
Course Contents	:	• Introduction & Basic programming. • ISO Code (G & M code) • Machine parameter & Function. • Different operation & ramming.
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Oral test • Overall performance.

4.3 CNC Machining Center Operation & Practice

Name of the Course	:	CNC Machining Center Operation & Practice
Duration	:	4-week [Customized]
Date	:	As per discussion.
Nomination deadline	:	As per Demand.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. in Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	• In depth exploration of ISO as related to milling and drilling oriented operations; • Detail Lessons ranging from basic to advanced programming; techniques using ISO and a representative multiaxis machining center CNC control (Fanuc-21); (Haidenhein TNC-310); • Hands on machining practice under real-life shop environment.
Course Contents	:	• Introduction & Basic programming. • ISO Code (G & M code) • Machine parameter & Function. • Different operation & ramming.
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Oral test • Overall performance.

4.4 Die Sink EDM & Wire Cut EDM Operation & Practice

Name of the Course	:	Die Sink EDM & Wire Cut EDM Operation & Practice
Duration	:	4-week [Customized]
Date	:	As per discussion.
Nomination deadline	:	As per Demand.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. in Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	• Understanding of EDM process and factors involved; • Rendering knowledge on die-sink & wire cut EDM machines, their components and control systems; • Acquaintance with electrode (Properties, materials and machining), dielectric fluids (Properties, function); • Programming with ISO codes and a representive control language (Robostar); • Use of CAM and Simulation to facilitate programming; • Making workable mold cavities, dies and punches using die-sink & wire-cut EDM process.
Course Contents	:	• Basic programming (wire cut) & operation • Basic operation • Application operation • NC programming. • My cam (software).
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Oral test • Overall performance.

4.5 Plastic Technology

Name of the Course	:	Plastic Technology [Customized]
Duration	:	4-week
Date	:	As per discussion.
Nomination deadline	:	As per discussion.
Number of Seats	:	5
Course fee	:	4,000/-
Target Group	:	Entrepreneur, technical staff working in the Plastic processing industries, TTC/VTI.
Course Objects	:	• To operate injection molding machine, compression molding machine, vacuum forming machine, extruder machine, blow molding and the plastic machinery; • Usage and maintenance of plastic mould; • Selection of appropriate plastic materials for products; • Maintenance and controlling of plastic machinery; • Testing procedure of plastic.
Course Contents	:	• Plastic materials • Plastic Testing • Plastic Processing machinery • Mold making • Heat Treatment • Electroplating • Machine Control System and Maintenance.
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Case study • Industrial visit.
Evaluation System	:	• Observation • Question and Answer • Individual exercise • Oral test • Overall performance.

4.6 Auto CAD (2D & 3D)

Name of the Course	:	Auto CAD (2D & 3D) [Customized]
Duration	:	6-week
Date	:	As per discussion.
Nomination deadline	:	· As per Demand.
Number of Seats	:	6
Course fee	:	7,500/-
Target Group	:	BSc. in Engineering, Diploma in Engineering, TTC/ HSC (Voc)
Course Objects	:	• Understanding and practicing of working and assembly drawing; • Introducing the importance of computer aided design (CAD); • Male capable of computer aided designing.
Course Contents	:	• Mechanical Drafting • Auto CAD-2D • Auto CAD-3D • Component drawing
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Oral test • Overall performance.

4.7 Solid work

Name of the Course	:	Solid work [Customized]
Duration	:	6-week
Date	:	· As per discussion.
Nomination deadline	:	· As per Demand.
Number of Seats	:	6
Course fee	:	7,500/-
Target Group	:	BSc. in Engineering, Diploma in Engineering, TTC/ HSC (Voc)
Course Objects	:	• Understanding and practicing of working and assembly drawing; • Introducing the importance of computer aided design (CAD); • Learn about innovation of design and design modification. • Know about the application of solid works drawing
Course Contents	:	• Mechanical Drafting • Solid works-2D • Solid works-3D • Assembly drawing Special Fixture drawing
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Oral test • Overall performance.

4.8 Refrigeration & Air Conditioning

Name of the Course	:	Refrigeration & Air Conditioning [Customized]
Duration	:	6-week
Date	:	As per discussion.
Nomination deadline	:	· As per Demand.
Number of Seats	:	20
Course fee	:	5,000/-
Target Group	:	Candidates having passed at least class eight.
Course Objects	:	• To make capable of repairing of domestic and industrial Air Conditioning system; • To make control circuit and detecting faults and its maintenance;
Course Contents	:	• Fundamental of Refrigeration and air Conditioning • Control System • Brazing and soldering • Troubleshooting • Operation And Maintenance • Assembly And Dismantling of Components
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Oral test • Overall performance.

SHORT TERM TECHNICAL TRAINING PROGRAM

5.1 Programmable Logic Controller (PLC)

Name of the Course	:	Programmable Logic Controller (PLC) [Regular]
Duration	:	2 -week
Date	:	07 July 19 to 18 July 2019, 08 Sept 19 to 19 Sept 2019 17 Nov 19 to 28 Nov 2019, 19 Jan 20 to 30 Jan 2020 8 Mar 20 to 20 Mar 2020, 31 May 20 to 11 June 2020
Nomination deadline	: :	4 July 2019, 5 Sept 2019, 14 Nov 2019, 16 Jan 2020 5 Mar 2020, 28 May 2020,
Number of Seats	:	20
Course fee	:	10,000/-
Target Group	:	Candidates having BSc. in Engineering and Graduation in Applied Physics, Diploma in Engineering
Course Objects	:	• To describe functions and uses of PLC • To develop PLC program for industrial process • To modify existing Really Control System into PLC System • To install PLC system in a process plant • To maintain and troubleshoot the PLC system.
Course Contents	:	• Introduction to PLC • Conventional Relay Control System • Functional description of PLC • Basic function block of PLC • Introduction to programming • Sensors & Actuators • Relay types Instructions • Timer & Counter Instruction • Loop creating sequencer Instruction • Process operation by PLC at BITAC pilot plant
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Industrial visit • Demonstration
Evaluation System	:	• Observation • Question and answer • Individual exercise • Oral test • Overall performance.

5.2 Boiler Operation and Maintenance

Name of the Course	:	Boiler Operation and Maintenance
Duration	:	1-week
Date	:	As per discussion.
Nomination deadline	:	As per Demand.
Number of Seats	:	15
Course fee	:	3,500/-
Target Group	:	Entrepreneur, technical staffs working in the industries like Sugar Mills, Textiles passed at least class eight.
Course Objects	:	• Skill development on Boiler; • Hand on practice on maintenance of different circuits like fuel circuits, water circuit; • Developing knowledge on Acts, rules and regulations; • Awareness on Safety and maintenance.
Course Contents	:	• Water circuit • Fuel circuit • Boiler construction • Boiler Maintenance • Safety • Troubleshooting • Act, rules & regulations • Inspection & regulations procedure • Control system
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Oral test • Overall performance.

6. Skill for Employment Investment Program (SEIP)

6.1 Machine Shop

Name of the Course	:	Machine Shop
Duration	:	4 Months
Date	:	02 May to 31 Aug 2019, 01 Sep to 31 Dec 2019 01 Jan to 30 Apr 2020
Nomination deadline	:	30 April 2019, 31 Aug 2019, 31 Dec 2019 SEIP-Tranch-2, 3rd, 4th and 5th Batch
Number of Seats	:	30
Course Fee	:	Free [Per working day will provide 100tk as scholarship]
Target Group	:	8th Class pass
Course Objects	:	• To perform Computations Using Basic Mathematical Concepts • To apply Occupational Health and Safety (OHS) Practices in the Workplace • To communicate in English in the Workplace • To operate in a Self-Directed Team • To interpret Technical Drawings and Plans • To work with Mechanical Hand and Power Tools • To carry Out Precision Checks and Measurements • To apply Quality System and procedures • Carryout Bench Working Operations • To perform Drilling, Lathe, Milling, Shaper and Precision Grinding Machine Operations
Course Contents	:	• To operate in a Self Directed Team • To communicate in English in the Workplace • To perform Computations Using Basic Mathematical Concepts • To apply Occupational Health & Safety(OHS) Practices in the Workplace • To interpret Technical Drawing & Plans • To work With Mechanical Hand & Power Tool s • Carry Out Precision Checks & Measurements • To apply Quality System and Procedures
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Oral test • Overall performance.

6.2 Electrical Installation and Maintenance

Name of the Course	:	Electrical Installation and Maintenance
Duration	:	4 Months
Date	:	02 May to 31 Aug 2019, 01 Sep to 31 Dec 2019 01 Jan to 30 Apr 2020
Nomination deadline	:	30 April 2019, 31 Aug 2019, 31 Dec 2019 SEIP-Tranch-2, 3rd, 4th and 5th Batch
Number of Seats	:	30
Course Fee	:	Free [Per working day will provide 100tk as scholarship]
Target Group	:	8th Class pass
Course Objects	:	• Use basic mathematical concepts • Carryout Workplace Interaction • To apply OSH Practices in the Workplace • Interpret Drawings And Specifications In Electrical Installation • Use Hand and Power Tools For Electrical Works • To perform Channel and Conduit Wiring • Install earthing And Atmospheric Lightning Protection System • To perform service and motor connection • Install and maintain electric motor with control system. • To perform motor rewinding and servicing • Install And Troubleshoot Solar Electrical System.
Course Contents	:	• Use Basic Mathematical Concepts • Carry out Workplace Interaction • To apply OHS Practices in the Workplace • Use Hand and Power Tools for Electrical Works • To perform Motor Rewinding Servicing and Motor Connection • To interpret Drawing & Specifications in Electrical Installation • Install and Maintain Electric Motor with Control System • Install and Troubleshoot Solar Electrical System. • Install Earthing and Atmospheric Lightning Protection System • To perform Conduit Wiring, Service Connection and Channel Wiring
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Oral test • Overall performance.

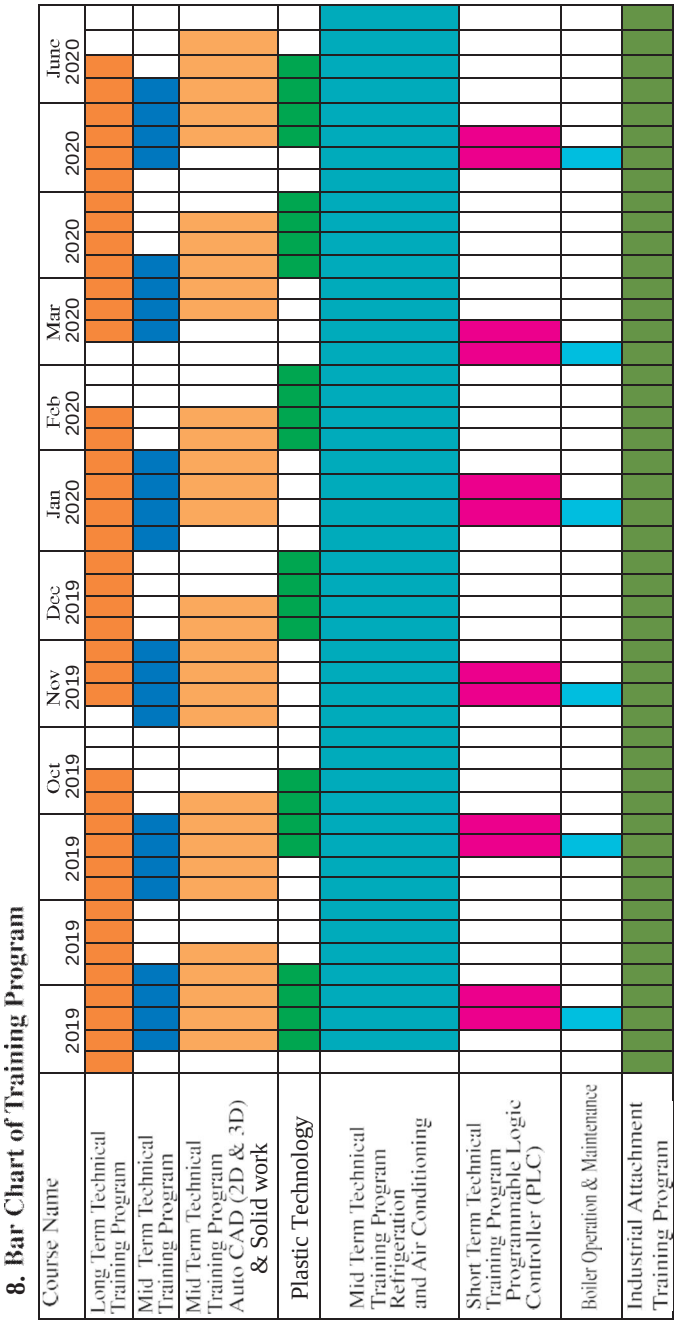
6.3 Welding

Name of the Course	:	Welding
Duration	:	4 Months
Date	:	02 May to 31 Aug 2019, 01 Sep to 31 Dec 2019 01 Jan to 30 Apr 2020
Nomination deadline	:	30 April 2019, 31 Aug 2019, 31 Dec 2019 SEIP-Tranch-2, 3rd, 4th and 5th Batch
Number of Seats	:	30
Course Fee	:	Free [Per working day will provide 100tk as scholarship]
Target Group	:	8th Class pass
Course Objects	:	• To perform Computations Using Basic Mathematical Concepts • To apply OHS Practices in the Workplace • To communicate in English in the Workplace • To operate in a Self-Directed Team • To interpret Technical Drawings and Manuals • To work with Mechanical Hand and Power Tools • Carry Out Precision Checks and Measurements • To apply Quality Systems and Procedures • To apply fundamentals of welding metallurgy • Carry Out Shielded Metal Arc Welding (SMAW) • To perform Gas welding, Gas cutting, Brazing and Soldering • Carry out Gas Tungsten Arc Welding (TIG) • Carry out Gas Metal Arc Welding (MIG)
Course Contents	:	• To operate in a Self Directed Team • To communicate in English in the Workplace • To apply Occupational Health & Safety(OHS) Practices in the Workplace • Fundamental of Welding Metallurgy • To work With Mechanical Hand & Power Tools • To perform Computations using Basic Mathematical Concepts • Apply Quality System & Procedures • To interpret Technical Drawings & Manuals • Carry Out Precision Checks & Measurements • Gas welding, Gas cutting, Brazing and Soldering • Shielded Metal Arc Welding
Training Methodology	:	• Class-room lecture • Group discussion • Practical exercise • Demonstration
Evaluation System	:	• Observation • Question and answer • Oral test • Overall performance.

7. INDUSTRIAL ATTACHMENT TECHNICAL TRAINING PROGRAM

Name of the Course	: INDUSTRIAL ATTACHMENT TECHNICAL TRAINING PROGRAM
Duration	: 4 - 12 week
Date	: At any time of the year depending on the participating Institute
Nomination deadline	: Depends on the participating Institute
Number of Seats	: As per demand
Course fee	: As per Govt. rule depending on the sending Institute
Target Group	: Students of (BUET) Bangldesah University of Engineering and Technology. (DUET) Dhaka University of Engineering and Technology. (KUET) Khulna University of Engineering and Technology. (CUET) Chittagong University of Engineering and Technology. (RUET) Rajshahi University of Engineering and Technology. (SUST) Shah Jalal University of Science & Technology. Vocational Institute and Polytechnic Institute.
Course Objects	: ● Introducing different conventional machine tools such as lathe, milling, grinding planer, boring, shaper, shearing, drilling, ball press, power press etc and CNC & Servo Control machine tools such as lathe, milling center, die sink EDM, & wire cut EDM. ● Comparing theoretical and practical operation systems of different traditional and CNC machine tool to develop spare parts or products, ● Acquainting with different melting and heat treatment furnaces and their operation system and also different surface treatment including protective coating; ● To make adapted in real life situation ● Understanding estimation and controlling production system. ● Rendering practical know-how on plastic processing technology.
Course Contents	: ● Welding and Fabrication ● Conventional Machine Tool-lathe, milling grinder, planer, boring, shaper, shearing, drilling, ball press and power press machine etc. ● CNC Machine Tool-lathe, milling machining center & wire cut EDM.
	● Special Machine Tool-Copy milling, pantograph milling, profile grinder, jig Boring & jig Grinding, servo control die sink EDM ● Tool and Cutter Grinding, ● Light Forging, ● Heat-Treatment ● Electroplating, ● Patten, ● Foundry ● Plastic Possessing machinery
Training Methodology	: ● Group discussion ● Practical exercise ● Case study.
Evaluation System	: ● Group exercise ● Individual exercise ● Discussion ● Oral test ● Overall performance.

8. Bar Chart of Training Program



* Long Term Training Program : (1) Machine Shop (2) Mechanical Drafting (3) Electrical Maintenance (4) Welding (5) Automobile & Auto-Electricity (7) Foundry & Pattern Making. (8) Heat Treatment (9) Electroplating (10) Machine Maintenance
* Mid Term Training Program : (1) CNC Lathe Operation & Practice (2) CNC Milling Operation &Practice (3) CNC Machining Center Operation & Practice (4) Die Sink EDM & Wire Cut EDM Operation & Practice
* Short Term Training Program : (1) (Programmable Logic Controller (PLC) (2) Boiler Operation & Maintenance
* Industrial Attachment Training Program : (1) University of Engineering and Technology (2) Polytechnic Institute (3) Vocational Training Institute